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- 1) Appeal Brief (17 pages);
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In re Application of: Douglas S. Reeves et al.

Serial No. 09/691,347

Filed: 10/18/2000

For: **AUTHORIZING COMMUNICATION SERVICES**

Examiner: Shin, Kyung H.

Art Unit: 2143

Mail Stop Appeal Brief – Patents

Commissioner for Patents

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Sir:

An **APPEAL BRIEF** is filed herewith. Appellant also encloses a credit card form authorizing payment in the amount of \$500.00 as required by 37 C.F.R. § 1.17(c). If any additional fees are required in association with this appeal brief, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

APPEAL BRIEF**(1) REAL PARTY IN INTEREST**

The real party in interest is the assignee of record, i.e., Nortel Networks Limited of 2351 Boulevard Alfred-Nobel, St. Laurent, Quebec Canada H4S 2A9, which is wholly owned by Nortel Networks Corporation, a Canadian corporation.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences to the best of Appellant's knowledge.

(3) STATUS OF CLAIMS

Claims 1-14, 20-29, and 33-36 were rejected with the rejection made final on July 1, 2005.

Claims 15-19 and 30-32 were cancelled.

Claims 1-14, 20-29, and 33-36 are pending and are the subject of this appeal.

(4) STATUS OF AMENDMENTS

All amendments have been entered to the best of Appellant's knowledge.

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(5) SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention provides for a communication server 12 of a service provider to authorize resource reservation for a communication session over a packet-switched network 10 without requiring the communication server 12 to know the identity of or significant details about the network elements 58, such as originating edge routers, providing the communication. (See Figure 2). The communication server 12 is configured to provide secure authorization indicia to the terminal 58 receiving or delivering information for the communication. The terminal 54 presents the authorization indicia to one or more network elements 58 involved in reserving resources for the communication. The network element 58 will use the authorization indicia to authorize resource reservation for the communication, and may forward the authentication to additional network elements, such as destination edge routers 60, involved in reserving resources for the communication.

Preferably, the authorization indicia are sent to the origination and destination terminals 56, 60 for the communication. Each terminal 54 may use the authorization indicia to initiate reservation of resources from network elements 58 at opposite ends of a communication path facilitating the communication. The network elements will use the authorization indicia to complete provisioning of resources with any intermediate network elements.

Any of the network elements may use the authorization indicia to access a policy server 66, 68 to gain approval for reservation of the resources. The communication may provide transfer of data for any type of media, including voice, audio and video, where it is necessary to reserve sufficient bandwidth, quality of service, or like resources. The communication may be uni-directional or bi-directional to allow for all types of communications, from bi-directional voice and data applications to uni-directional downloading or streaming.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-14, 20-29, and 33-36 were properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Eriksson et al. (hereinafter "Eriksson") in view of Chang et al. (hereinafter "Chang").

(7) ARGUMENT**A. Introduction**

Neither Eriksson nor Chang teach the use of authentication indicia, which is configured to allow networks to reserve resources for communication.

The Patent Office is improperly combining the references.

B. Summary of the References**1. U.S. Patent No. 6,661,806 to Eriksson**

Eriksson provides a method for achieving admission control to a public connectionless packet network, such as the Internet, in an environment such as that illustrated in Figure 1. The method allows service differentiation in a form which permits a user to receive a quality of service guarantee, which is better than a "best effort" service. Each packet transmission by a user across the network includes a ticket message sent to the user from the network. The ticket message includes information about the priority level of the transmission, and can be used in the network by the user to determine the resources available for future transmission requests (Eriksson, Abstract). Using an existing ticket message to obtain new ticket messages avoids having the user make a completely new reservation request with the associated risk that the request would be denied if the resources were unavailable (Eriksson, col. 4, lines 60-64).

2. U.S. Patent No. 6,058,113 to Chang

Chang provides a method for establishing and maintaining data communications between communication devices including at least one sender communication device 32 and a receiving communication device 36 of a multicast group 30. The communication devices 36 of the multicast group 30 are interconnected by a communication network of switching nodes 34. The method further involves determining when there is a state change in the multicast group 30. The receiving communication device 36 normally maintains a resource reservation in response to data being substantially continuously received at the switching nodes 34, unless there is a state change of the multicast group 30. Upon determination of a state change in the multicast group 30, the resource reservation changes even while the data is being continually received at the switching node 34 (Chang, Abstract). The resource reservations relate to the actual resources at

the respective sender and receiving communications devices 32, 36. (Chang, col.7, line 66 through col. 8, line 9).

C. The Standards for Establishing Obviousness

Section 103(a) of the Patent Act provides the statutory basis for an obviousness rejection and reads as follows:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Courts have interpreted 35 U.S.C. § 103(a) as being a question of law based on underlying facts. As the Federal Circuit stated:

Obviousness is ultimately a determination of law based on underlying determinations of fact. These underlying factual determinations include: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) the extent of any proffered objective indicia of nonobviousness.

Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH, 139 F.3d 877, 881 (Fed. Cir. 1998) (internal citations omitted).

The burden is on the Patent Office to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.3d 1071, 1074 (Fed. Cir. 1988). "To reach a proper conclusion under § 103, the decisionmaker must step backward in time and into the shoes worn by [a person having ordinary skill in the art] when the invention was unknown and just before it was made." *Id.* at 1073 (quoting *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566 (Fed. Cir. 1987) (paraphrase in *Fine*'s original text)). "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine* at 1075.

The "case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). "Combining prior art references without evidence of such a

suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability - the essence of hindsight." *Ibid*.

The Federal Circuit notes

that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved . . . The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence."

Ibid (internal citations omitted). It is worth noting that the *Dembiczak* court specifically acknowledged *Fine*, but emphasized the requirement for actual evidence in proving the motivation to combine the references.

It is further worth noting that where the teachings of two or more prior art references conflict, the examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another. *In re Young*, 927 F.2d 588 (Fed. Cir. 1991); MPEP § 2143.01.

For a *prima facie* case of obviousness, the combination must teach or fairly suggest all the claim elements. *In re Royka*, 490 F.2d 981 (CCPA 1974); MPEP § 2143.03. If the Patent Office fails to establish obviousness, then the Appellant is entitled to a patent. *In re Glaug*, 283 F.3d 1335, 1338 (Fed. Cir. 2002).

D. Claims 1-14, 20-29, and 33-36 Are Non-Obvious Because the Combination of References is Improper

Most inventions are combinations of known elements. One of the things that makes an invention patentable is that there was no suggestion in the prior art to combine the known elements in the manner claimed. The Patent Office has the unenviable task of casting itself back to the time of the invention, examining the references, and determining if the invention was obvious to someone skilled in the art. The Patent Office is not allowed to rely on hindsight reconstruction or use Appellant's disclosure as a template to pick and choose elements from the prior art and reassemble Appellant's claimed invention. Rather, as the Federal Circuit has stated with unusual clarity, the Patent Office must prove, through actual evidence, that there is a motivation to combine the references. *In re Dembiczak*. The Patent Office is not free to ignore

the instructions in *Dembiczak*, even though the MPEP has not been updated to reflect this decision. Importantly, each and every element of the claimed invention must be taught or suggested by the combination of references.

For the present application, the combination of Eriksson and Chang fails because neither reference teaches nor suggests the use of authentication indicia, which is configured to “enable reservations of resources” at intermediate nodes in a communication network. The Patent Office asserts that the ticket message of Eriksson is analogous to the authentication indicia of the claimed invention. This assertion is improper. Further, Chang also fails to teach or suggest the authentication indicia of the claimed invention. A detailed analysis follows. The analysis is focused on independent claims 1, 5, 9, 20, 24, 27, and 33, each of which employ the use of authentication indicia to enable intermediate nodes (network elements) to reserve resources for a communication between two communication terminals. The analysis is equally pertinent to dependent claims 2-4, 6-8, 10-14, 21-23, 25, 26, 28, 29, and 34-36.

The authentication indicia of the claimed invention are not the same as the ticket messages of Eriksson. In Eriksson, a resource request is made before a communication session is requested by an originating terminal. The resource request is received by the access router and propagated through the real-time router to the terminating terminal (Eriksson Fig. 2 and col. 3, lines 3 through 36. During this process and prior to initiating the communication session, resources are reserved. Eriksson states that “[e]ach node in the transmission path can perform resource reservation and admission control” (Eriksson col. 3, lines 28-30). Assuming bandwidth is available for resource reservation, an ACK is propagated back to the access router via the real-time routers (Eriksson col. 3, lines 31-38).

Next, “information about the resources allocated to the connection, and other connection parameters (for example those specified in the traffic contract) is sent from the access router AR to the sender A in a ticket message M1” (Eriksson col. 3, lines 40-44). Clearly, the resources have already been reserved and the ticket message M1 is merely providing information indicating that the resources have been reserved. Upon receipt of the ticket message M1, each packet sent to the terminating terminal within a given time period includes the ticket message M1. Each packet is sent through the access router and the real-time routers, which requires the packet to have the ticket message to pass. (Eriksson, col. 4, lines 4-11).

In essence, “a ticket message issued from an access router to a sending terminal, comprises in effect a permission to transmit a packet with a specific bandwidth at [a] priority level until the ticket expires” (Eriksson col. 4, lines 57-60). The ticket message of Eriksson is simply proof that resources have already been reserved. The access router and the real-time routers do not reserve resources based on the ticket message. Once the ticket message is received, the resources have already been reserved.

In contrast to the ticket message, the claimed invention provides authentication indicia, which are “configured to enable reservations of resources.” The authentication indicia allow intermittent nodes along the communication path to dynamically reserve resources for a session, once the session has been initiated.

An originating terminal will initially request authentication indicia for a session – not resources for the session. Resource reservations are not provided prior to providing the authentication indicia to the originating terminal. Upon receipt of the authentication indicia, the originating terminal will send the authentication indicia to an intermediate node, such as a router, which will use the authentication indicia to reserve resources for the communication session.

To illustrate a clear difference between the claimed invention and Eriksson, the communication session of the claimed invention may be stopped if the intermediate node cannot reserve resources, even if the authentication indicia are appropriate. In Eriksson, the intermediate nodes are obligated to forward packets having appropriate ticket messages. As indicated above, Eriksson fails to teach or suggest the receipt, generation, or use of the authentication indicia of the claimed invention.

Nothing in Chang cures the deficiencies of Eriksson. The resource reservation in Chang relates to ensuring that the communication terminals themselves have sufficient resources to support the communications. The Background of the Invention of Chang clarifies this focus. For example, Chang points out the need to reserve resources of the communications terminals by stating, “[b]ecause of different capabilities in the receiving devices, the receivers specify the resource required for accepting the connection” (Chang Col. 1, line 38-40).

Chang is not reserving actual resources of the intermediate nodes, but instead, reserves resources of the communication terminals themselves. Chang is focused on minimizing the number of resource reservation messages which are passed between communication terminals, and thus, through the intermediate nodes. The intermediate nodes help determine when

communication terminals must exchange resource reservation messages. For example, Chang states that “[w]hen a switching node 34 receives a reservation message [from a receiver node 36]” (Col 7, lines 47 and 48) . . . “[a] determination is made at the switching node 34 as to whether there is a need to send the reservation message from the switching node upstream to the sender node 32” (Col 7, line 66 through col. 8, line 1).

Chang does not receive or send authentication indicia configured to enable reservation of resources for a communication session. Chang only exchanges resource reservation requests and responses between communication terminals via the switching nodes 34. Nothing is sent to an intermediate node to enable the intermediate node to request resources for the communications. As such, Chang fails to cure the deficiencies of Eriksson. The combination of Eriksson and Chang fails to teach or suggest each and every element of the claimed invention.

In addition to failing to teach or suggest each and every element of the claimed invention, there is no motivation to combine the references of Eriksson and Chang to arrive at the claimed invention. Eriksson uses ticket messages as proof of prior resource reservations and uses these ticket messages to transmit packets through a network. There is no use of authentication indicia to enable the intermediate elements of the network to reserve resources for a communication session. This is because there is no need to reserve the resources because the resources have already been reserved for the communication. Chang is focused on the resources at the respective communication terminals and is not concerned about reserving resources at the intermediate nodes within the network. The respective references have different focuses and there is really no need to combine the references to resolve any stated issues.

Even if the references were combined, the resulting system would use ticket messages to prove prior resource reservations within the network and the technique of Chang to officially maintain resources at the respective communication terminals. Accordingly, there is either no motivation to combine the references; or, if the references are combined, they still fail to teach or suggest the claimed invention.

E. Conclusion

The combination of Eriksson and Chang fails to disclose each and every element of the pending claims 1-14, 20-29, and 33-36. Also, the combination of Eriksson and Chang is either improper or fails to teach or suggest the claimed invention. In conclusion, the combination of

Eriksson and Chang fails to teach or suggest the use of authentication indicia, which is configured to be sent to intermediate nodes in a network from a communication terminal and allow the intermediate nodes to reserve resources for communication.

Respectfully submitted,

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(8) APPENDIX

1. A method of authorizing communications comprising:
 - a) receiving a request for authorization to establish a communication with a destination terminal from an origination terminal;
 - b) generating authorization indicia for the communication, the authorization indicia configured to enable reservation of resources for the communication; and
 - c) initially sending the authorization indicia to at least one of the originating and destination terminals to facilitate reservation of resources for the communication, wherein the at least one of the originating and destination terminals receiving the authorization indicia will subsequently send the authorization indicia to at least one network element to reserve resources for at least a portion of the communication.
2. The method of claim 1 wherein the sending step comprises sending the authorization indicia to the originating and destination terminals to facilitate reservation of resources for the communication, wherein the originating and destination terminals receiving the authorization indicia will send the authorization to corresponding network elements forming part of the communication path to reserve resources for portions of the communication.
3. The method of claim 1 further comprising verifying the user of the originating terminal is capable of receiving services providing the communication.
4. The method of claim 1 wherein the step of generating authorization indicia comprises authenticating the authorization indicia for use by the at least one network element.
5. A method of authorizing communications comprising:
 - a) receiving a request from a destination terminal to reserve resources for a communication between an originating terminal and the destination terminal, the request including authorization indicia provided to the originating terminal by a service provider and configured to enable reservation of resources for the communication; and

- b) reserving resources for at least a portion of the communication based on the authorization indicia.
6. The method of claim 5 wherein the reserving step comprises reserving resources for the communication at a second network element associated with the destination terminal using the request received from the destination terminal.
7. The method of claim 6 further comprising provisioning for resources for the communication over a network between the first and second network elements based on the authorization indicia.
8. The method of claim 5 further comprising establishing a second communication from the destination terminal to the original destination and reserving resources for at least a portion of the second communication based on the authorization indicia.
9. A terminal for effecting communications comprising a network interface and a control system associated with said network interface, said control system adapted to:
- a) send a request to establish a communication with a remote terminal over a network to a service provider;
 - b) receive authorization indicia configured to enable reservation of resources for the communication from the communication server in response to the request to establish the communication; and
 - c) send a request associated with the authorization indicia to a network element to reserve resources for the communication wherein the authorization indicia is configured to enable the network element to reserve sufficient resources for at least a portion of the communication.
10. The terminal of claim 9 wherein said control system is further adapted to effect the communication over a communication path having the reserved resources with the destination terminal via the network element.

11. The terminal of claim 10 wherein said control system is adapted to effect a second communication over a second communication path with the destination terminal via the network element.

12. The terminal of claim 9 wherein said terminal is a cable terminal and said control system facilitates at least one of the group consisting of receiving or transmitting audio and video via the communication.

13. The terminal of claim 9 wherein said terminal is a telephony terminal and said control system facilitates at least one of the group consisting of receiving or transmitting audio via the communication.

14. The terminal of claim 9 wherein said terminal is a receiver and said control system facilitates at least one of the group consisting of receiving at least one of the group consisting of audio and video via the communication.

20. A communication server for facilitating communications, said communication server comprising a network interface and a control system adapted to:

- a) receive a request for authorization to establish a communication with a destination terminal from an origination terminal;
- b) generate authorization indicia for the communication, the authorization indicia configured to enable reservation of resources for the communication; and
- c) initially send the authorization indicia to at least one of the originating and destination terminals to facilitate reservation of resources for the communication, wherein the at least one of the originating and destination terminals receiving the authorization indicia will subsequently send the authorization indicia to at least one network element to reserve resources for at least a portion of the communication.

21. The communication server of claim 20 wherein said control system is further adapted to send the authorization indicia to the originating and destination terminals to facilitate reservation

of resources for the communication, wherein the originating and destination terminals receiving the authorization indicia will send the authorization to corresponding network elements forming part of the communication path to reserve resources for portions of the communication.

22. The communication server of claim 20 wherein said control system is further adapted to verify the user of the originating terminal is capable of receiving services providing the communication.

23. The system of claim 20 wherein said control system is further adapted to authenticate the authorization indicia for use by the at least one network element.

24. A policy server for approving resource reservation for a router in a network, said policy server comprising a network interface and a control system associated with said network interface, said control system adapted to:

- a) receive a request to approve reservation of resources for a communication from a router, the request including authorization indicia configured to enable reservation of resources for the communication;
- b) determine whether to approve the reservation of resources for the communication based on the authorization indicia; and
- c) send a response to the request to the router indicating whether the request for the reservation of resources was approved.

25. The policy server of claim 24 wherein said control system is further adapted to communicate with a service provider to confirm the reservation of resources is appropriate based on the authorization indicia.

26. The policy server of claim 24 wherein said control system is further adapted to communicate with an authentication service to confirm the authorization indicia is authentic.

27. A computer readable medium comprising software for instructing a computer to:

- a) send a request to establish a communication with a remote terminal over a network to a service provider;
- b) receive authorization indicia configured to enable reservation of resources for the communication from the communication server in response to the request to establish the communication; and
- c) send a request associated with the authorization indicia to a network element to reserve resources for the communication wherein the authorization indicia is configured to enable the network element to reserve sufficient resources for at least a portion of the communication.

28. The computer readable medium of claim 27 comprising further instructions to effect the communication over a communication path having the reserved resources with the destination terminal via the network element.

29. The computer readable media of 28 comprising further instructions to effect a second communication over a second communication path with the destination terminal via the network element.

33. A computer readable medium comprising software for instructing a computer to:
- a) receive a request for authorization to establish a communication with a destination terminal from an origination terminal;
 - b) generate authorization indicia for the communication, the authorization indicia configured to enable reservation of resources for the communication; and
 - c) initially send the authorization indicia to at least one of the originating and destination terminals to facilitate reservation of resources for the communication, wherein the at least one of the originating and destination terminals receiving the authorization indicia will subsequently send the authorization indicia to at least one network element to reserve resources for at least a portion of the communication.

34. The computer readable medium of claim 33 comprising further instructions to send the authorization indicia to the originating and destination terminals to facilitate reservation of resources for the communication, wherein the originating and destination terminals receiving the authorization indicia will send the authorization to corresponding network elements forming part of the communication path to reserve resources for portions of the communication.

35. The computer readable medium of claim 33 comprising further instructions to verify the user of the originating terminal is capable of receiving services providing the communication.

36. The computer readable medium of claim 33 comprising further instructions to authenticate the authorization indicia for use by the at least one network element.

(9) EVIDENCE APPENDIX

Appellant relies on no evidence, thus this appendix is not applicable.

(10) RELATED PROCEEDINGS APPENDIX

As there are no related proceedings, this appendix is not applicable.